WEEKLY EDITION
OF THE
AMERICAN
ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA
BEE JOURNAL
PUBLISHED AT
925 WEST MADISON-STREET, CHICAGO, ILL.
Weekly, $2 a year; Monthly, 50 cents.

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR.

Vol. XXI. Chicago, Jan. 28, 1885, No. 4.

Keep a Book Account.

Working haphazard is a very questionable way of doing business, and you will find scarcely any successful person that does not keep a debtor and creditor account with his stock, for he knows that it is the only true way to tell how much has been made during the season or how much has been lost. A well-kept account will teach many valuable and profitable lessons, for it will show plainly just where certain gains were made, and how they may be increased; it will show where losses have been sustained, and will suggest a remedy for the same. After it is once commenced, it is very little trouble to keep a regular account, for a few minutes each evening will be all the time required to attend to it properly.

We think we are looking to the interest of every reader when we commend the use of the "Record & Account Book" noticed on another page. It is complete in every respect, and should be generally utilized. The price is $3.00; but we will club it and the Weekly BEE JOURNAL for a year for $4.00. If you have already sent us $2.00 for the Weekly BEE JOURNAL for a year, we will send the Book for another $2.00 making $4.00 in all. If you want it sent by mail, add 24 cents for postage.

☞ For 5 or 6 weeks the weather has been extremely cold; the thermometer in Chicago ranging below zero nearly all the time; several times it indicated 30° below zero. The cold weather has not only been severe, but long continued, notwithstanding the prophets promised us a mild winter!

Cultivation of the Clovers.

It will soon be time to be thinking of pasturage for the bees. Some will want to plant and in reply to inquiries we give below illustrations of the *Clovers*, and how to plant them, copied from *Landreth's Rural Register* for 1885, published by David Landreth & Sons, Seed Farmers, 21 & 23 South 6th St., Philadelphia, Pa., who have kindly furnished us with the illustrations.

We will enumerate other honey-producing plants, hereafter.

Red Clover—Trifolium pratense.

This is the most widely cultivated of all the pasturage plants, loosening the soil and admitting the air and drawing up and storing away near the surface the valuable principles scattered in the earth beneath. It is regarded as one of the best of vegetable fertilizers, as well as a cattle-food of highest merit. Sow, in the spring, 16 lbs. to the acre.

White Clover—Trifolium repens.

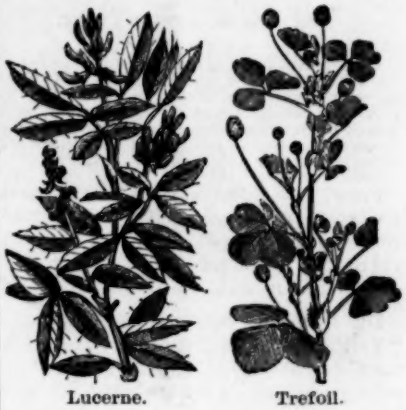
Not a heavy producer of hay, but invaluable in permanent pastures. Will grow on any soil, but luxuriates in damp locations and in damp seasons. Sow 12 lbs. to the acre.

Lucerne or Alfalfa—Medicago sativa.

It resists the driest weather, and when every blade of grass droops for want of moisture, it holds up fresh and green as in genial spring. Sow 10 lbs. to the acre.

Trefoil—Medicago lupulina.

A fibrous-rooted biennial plant, and flowers from May to August. Sow 8



Lucerne. Trefoil.

lbs. to the acre with sainfoin, or 6 lbs. if alone.

Alsike Clover—Trifolium repens.

Possibly a hybrid between the Red and White, possessing qualities common to both. The flowers are a distinct light pink, and afford fine pasturage for bees. Sow 12 lbs. per acre.

How it is, "Over There."

While we in the Northwest are "frozen up" by the chilling blast of the Manitoba breezes, it is refreshing to read items like the following, from the Chicago Daily *Times*. A correspondent telegraphs thus:

"California is now enjoying spring weather. Acacia in full bloom attracts the bees; roses are plentiful; violets, mignonette and heliotrope are in early spring flower. About one-half of the rain expected in the wet season has fallen, and the farmers are contemplating speedy planting."

Upon opening one of our exchanges from California we find the following:

The season just past has been remarkable in every respect. The early and later rains gave us such a floral output as has never been known since the honey-bee was first brought to this part of California, in 1855.

Queries & Replies.

The Use of Drone-Traps.

Query No. 5.—I have 5 hybrid colonies of bees, 3 black, and 2 Italian colonies. If they all winter well, would it be a good plan to give the Italians a card of drone comb, and put drone traps on the hybrids and blacks, when the young Italian queens are mating? Is there a better way?—Utica, Ont.

PROF. A. J. COOK remarks: "There is no better way, unless by giving only worker-comb or cutting off the heads of the drones. You must control or kill all drones from undesirable colonies."

DR. J. P. H. BROWN replies as follows: "Yes, it is a good plan; but in connection cut out all drone-comb from the impure colonies and put in worker-comb, and examine them every two weeks and shave off the cap of every drone-cell that can be seen."

W. Z. HUTCHINSON responds thus: "The plan is a good one, if there are no blacks nor hybrids within two or three miles. An excellent way would be to send South for Italian queens and Italianize the blacks and hybrids before drones can be reared."

Messrs. DADANT & SON answer: "There is a better way than to use a drone-trap, which is a nuisance at the best. Take all the drone-comb out of your black and hybrid colonies early in the spring, and replace it with worker-comb, or with worker foundation if comb cannot be had, and you will rear 50 workers to every square inch, in place of 32 drones, with no more expense; and these workers will store honey for you in place of eating it."

JAMES HEDDON says: "If I were in your place, and producing comb honey, I should not care to breed my Italian queens to purity. Supposing that you do, have you too much drone-comb in all the colonies, or in such shape that you cannot place it all with the Italians? If so, I would put all I could with them, and then beginning early, keep the unwanted drones' heads cut off as fast as they are sealed. You can use the Jones' entrance drone-excluders, and after 4 p. m. remove it and let the drones out, and while out, replace it and keep out the most of them for evening destruction."

DR. G. L TINKER answers as follows: "It would be 'a good plan' unless more hybrid colonies are wanted, and there is no 'better way' than he one suggested, if the colonies sought to be bred from are isolated one or two miles from all others."

G. W. DEMAREE replies: "I have always succeeded in getting purely mated Italian queens by encouraging some Italian colonies to rear drones early in the spring—give them some drone-cells in the centre of the brood-nest, not a whole card—and clip the heads of the drones in the black colonies; this is cheaply done before the surplus cases are adjusted. Later in the season I prefer to use the perforated-zinc to control the drones."

DR. C. C. MILLER answers as follows: "Instead of using drone-traps, I had rather cut out all drone-comb (except in the Italian colonies) and fill the holes in the combs with worker-comb. Or, with so few colonies, slice the heads off of the sealed drone-brood once a week. If, however, blacks or hybrids are in neighboring apiaries, the most that can be done is to encourage the production of large numbers of drones in the Italian colonies."

J. E. POND, JR. says: "To the first part of this query I would say, yes; rear as many Italian drones as possible, and at as early a day as possible; also prevent rearing of drones in the hybrid and black colonies. By so doing, if there are no hybrids or blacks other than you own, within four or five miles of your apiary, the chances are largely in favor of your Italian queens' mating purely."

G. M. DOOLITTLE responds as follows: "Get Italian queens in all colonies as soon as possible, after which all young queens will meet Italian drones without any use for the drone-trap. These first Italian queens mated with hybrid or black drones will be as good honey-producers as pure Italians, as a first cross always gives vigor."

Frost and the Bee-Moth Larvæ.

Query No. 6.—Will frost destroy the eggs and larvæ of the bee-moth? If so, what temperature will it take to do it?—Lyn, Ont.

PROF. A. J. COOK responds thus: "The bee-moth in its immature state survives very severe frosts; how severe, I cannot tell."

G. M. DOOLITTLE says: "Zero, or lower, will generally freeze combs, so that all eggs of the bee-moth are rendered harmless."

J. E. POND, JR. replies: "I do not know whether frost will destroy the eggs of the bee-moth or not; but I have had worms hatch out in the spring, after having been exposed all winter, with the temperature as low as 18° below zero. The eggs do not hatch though except when very warm; 70° above zero, at least in my experience."

Messrs. DADANT & SON say: "Frost will undoubtedly destroy the eggs and larvæ of the moth, but we have never tried to ascertain the degree required. We think that if they are exposed to temperature below 25°, it will destroy them."

JAMES HEDDON says: Destruction of the eggs and larvæ of the bee-moth begin at about 16° above zero, Fahr. After my combs have been fairly exposed to a temperature of 5° to 10° above zero, I always feel safe about them. In late years we have hardly had any trouble from moths at all, whether combs are exposed to a low temperature or not. Care during summer is the preventive."

G. W. DEMAREE thinks that "frost will destroy the eggs of the bee-moth; but not the larvæ, after they weave about themselves the tough silken shroud so wonderfully adapted to their preservation."

DR. J. P. H. BROWN says: "It is very doubtful; depend more upon the frames of surplus."

Dr. G. L. TINKER says: "The larvæ of the bee-moth is not killed by frost; at least not in protected situations where the temperature may fall as low as zero. I cannot say as to the eggs."

California Exhibit at New Orleans.

The *Californian* gives the following particulars concerning the California Exhibit of honey and honey-plants at the World's Fair at New Orleans, La.:

The opportunity to place California honey where it can be seen and sampled by a vast multitude of people, has been improved by some of the bee-masters of Southern California, and samples from Los Angeles, San Diego and Ventura counties have been taken by the Southern Pacific Railroad to the Exposition.

Mr. J. E. Pleasants has been selected to represent the Los Angeles County Bee-Keepers' Association at New Orleans, and he started to that city on Dec. 6, taking with him a model extracting-house, 600 pounds of honey, a large quantity of wax, and a fine collection of thrifty-growing, honey-producing shrubs and plants indigenous to Southern California. They were in pots, and will no doubt grow and bloom in the climate of New Orleans almost as well as in Southern California. Visitors to the Exposition can then form some idea as to the source from which the great yields of honey are obtained in this locality.

The good taste of Mr. Pleasants in putting articles in place to show to the best advantage has often been evidenced at our local Fairs, notably at the last Fair of the Sixth District Agricultural Society, held in this city last October, where Mr. Pleasants took the premium for the largest and best display of honey.

☞ At the World's Exposition, let it be understood, says Dr. Brown, that "all exhibits of colonies of bees and bee manipulations will *only be during the week of the Convention.* Supplies can be exhibited any time during the Exposition."

☞ From an investment of $2.00, every subscriber to the Weekly BEE JOURNAL for 1885, will receive fifty-two dividends.

☞ Do not forget to send for a Binder in which to file your JOURNAL and thus have the full benefit of it during the whole year.

For the American Bee Journal.

Are Patents Necessary?

JAMES HEDDON.

I have no interest in patents; neither are any of my inventions patented. Why not? Because I do not wish to prohibit the manufacture and use of them by any honey-producers who may think them worthy, and wish to make them for their own use.

I do wish that manufacturing dealers would respect the natural rights of any and all inventors, by not rushing into the manufacture and sale of their inventions without first getting the inventor's consent so to do. I claim that every inventor has a natural right to the exclusive manufacture of his own inventions—the product of his own labor. I believe this principle is recognized by all civilized nations, and these nations make patent laws to force those to respect such rights, whose moral status is thus low that they will not respect them unless forced to.

On page 620 of *Gleanings* for 1884, the editor says: "I am very glad indeed to note the disposition among bee-keepers of forbearing to copy the works of each other, patent or no patent. The supply dealer who would unhesitatingly copy something well known to be the property of another, without getting the privilege of doing so, by purchase or otherwise, would very likely lose more than he made, so strong is the disposition of our people to give honor to whom honor is due." I like this just sentiment, and the general idea of a bee-keeper honoring the inventor's right, better than the patent system.

A patent-right contemplates not only reward of merit, but inducement to benefit mankind by invention. The same is true of this proposed bee-keepers' honorary, respect-for-inventors'-rights, system. By the latter, expense of patenting is avoided, enabling the inventor to give the public all individual rights if he wishes. All expense of litigation is avoided. We can force a stealer of others' mental labor to stop, by the quiet, inexpensive system of neglect. Public sentiment now prevents more wrong doing (nearly all small acts) than law, and without a particle of cost. Cannot this matter of inventor's natural rights be put into this latter system of government? Let bee-keepers set the example. Let the prior inventor remember that such priority is not enough for a claim of right. We have no money or time to spend settling complicated claims of secreted priority. The first man who benefits us all by publishing, thus giving to us the advantages of his invention, let us hold entitled to all the honorary and financial benefits accruing from such discovery, and the exclusive right of the manufacture of the same for a reasonable length of time.

Many inventions prove to be worthless. Finally the inventor begins to suspect this truth; the cost of patenting is lost to him, unless he can find another mistaken man to sell out to, and this is often done by moral cowards who fear financial loss more than moral degradation. The moral-right system tempts to no such immorality. It brings no unjust expensive lawsuits for infringements by innocent parties, who, many times, have been deceived and induced to so infringe by the very ones who expected to prosecute for that infringement.

Another point is, that no man has as much pride in the excellence of the construction of an article as does the inventor—he who has a pride and interest in its introduction. It is not he, but the imitator who is ignorant and careless of the proper bearing, adjustment and construction of the new article. His only aim is profit; to-day's profit, regardless of the profits of the future. He cuts the price 20 per cent., and the quality 40 per cent. If this honorary system of protection is sustained, then I am in favor of such system, vs. the patent-law. If not; if the morality of "our people" is so low that the expensive, and in many other ways bad patent-law is the only thing we can rely upon to protect a man's natural rights—then let us have that, and depend upon it.

I have every reason to believe that there are now several bee-keepers in our land who have valuable newly devised fixtures and methods, but they keep them in secret, because they see so little disposition among bee-keepers to recognize their natural right to their inventions, or even to "give honor to whom honor is due;" but a little something to be gained in monopolizing their use. Let us now and here determine to "give honor to whom honor is due," to protect in act and speech the natural rights of bee-keepers and others, and to increase the quality and quantity of the future honey crop all we can by aiding those already in the business to obtain better and larger yields, but *never* by inducing those of other callings to enter our already "over-done" business.

Dowagiac, Mich.

For the American Bee Journal.

Pollen, First Cause of Winter Loss.

A. J. NORRIS.

I have read the articles on the effects of brood-rearing and pollen, and I think that they are of much importance to owners of large apiaries; yet I have been undecided in regard to the cause of the losses of winter and early spring, but Mr. Doolittle's article on page 5, now puts me on the side of the pollen theory. Mr. Doolittle, in the beginning of his article, says: "I have claimed, for years, that pollen cannot be the prime cause, etc.," but he seems to bring in pollen as a secondary cause; but I think that he brings out the fact very plainly, that pollen is the first cause.

We all know, when bees have frequent flights, that pollen can do no harm, only to stimulate brood-rearing out of season; but here in the North, bees are confined from four to ten weeks, and will rear brood when pollen is present, and they will suffer more or less. Now, why not remove this cause of brood-rearing (prime cause of spring dwindling and death)? But there is one thing of which I do not feel assured, *i. e.*, if the bees are robbed of the necessaries with which to rear their young, will the old bees live long enough in the spring to build up strong, especially when they are cut short by drouth in the fall? Will the life of the old bees be prolonged by the absence of pollen and the required labor of rearing young?

In the fall of 1881, I fed one colony of Italians on sugar syrup that was short of both pollen and honey; they wintered with scarcely any loss. Again, in the fall of 1883, I transferred several colonies from American hives to Langstroth hives, and I gave them empty combs containing considerable pollen, and fed them sugar syrup. They dwindled badly, and some were entirely lost. I agree with both Mr. Doolittle and Mr. Heddon that pollen is the cause of bee-diarrhea and spring dwindling. Mr. Doolittle gives it as a secondary cause, but I think that he very clearly proves it to be the first or prime cause.

I have 316 colonies in winter quarters. With me the past season was a fair one for honey, and I think that the prospect for the coming season is good. Our principal crop is white clover.

Cedar Falls, Iowa.

For the American Bee Journal.

Hibernation of Bees.

W. F. CLARKE.

Mr. Heddon has again discussed the hibernation theory. At the start he says: "I fail to see anything in it yet." This is not surprising, because his vision is obscured by the pollen theory. In his reference to bees that have their *habitat* in the woods, there is nothing new, except the dogmatism with which he asserts that "no one can admit that bees *generally* do well in trees during the winter, and yet tell the truth." There is no use in attempting to meet a statement like that with argument; yet it remains a stubborn fact that most people do make the admission in question, and so prove themselves in his estimation—what?

Mr. Heddon admits that it does seem as though he ought to get clear on the subject of hibernation "with so clear a writer to expound and explain." I thought I made it "clear" that we were to "fix" the outside protection of the bees, give them a supply of pure air without draft, and leave them to "fix" the inside temperature, which I claimed they would do, if the hive were not too large; but it seems I did not. However, I really

do not know how to improve upon it. But if I cannot do this, I think I can show him that in the case of his bees which were so quiet and consumed so little, he accidentally hit upon the conditions that enabled them to hibernate. He says, he "fixed the temperature within their hives, and not they?" Is not this a big mistake? He fixed the cellar protection, and the outer air supply—no more. These happened to be just right in that case, and the bees did the rest. They were so "fixed" exteriorly that they could generate the amount of heat requisite for hibernation. Hence, they wintered perfectly. If he could do that every time, the winter problem would be solved, pollen or no pollen. Is not this what we are all after, to find out how Mr. Heddon wintered those bees in such repose and content that they took on the state of quiescence, and only consumed two or three pounds of honey? What I wonder at is that with such a case full in recollection, he should ever have started after pollen as the cause of winter difficulty. If he will give me the unfailing recipe for wintering bees as he wintered those colonies, I will end the quest, seek no farther, and let him call that method of wintering by what name he likes—"perfect quietude," "semi-hibernation," or even "total abstinence from pollen."

Mr. Heddon must put me down among the doubters as to bees wintering well in "the most abominable impure atmosphere," and having the diarrhea "radically, with the best of ventilation." I do not for a moment question the sincerity with which he makes these statements, but I must think they betray a species of hallucination from which the strongest intellects are not always wholly free.

The conviction that taking bees out of cellars or special repositories into the open air causes spring dwindling, is not "based on the principle of good care making the bee tender," but on the principle that the change is too sudden from a protected to an exposed condition. Putting an "outer box" around an "out-door hibernating colony" is a different affair altogether. There is no sudden change in this case, because the outer box is kept in place until settled warm weather. "Let it be recorded" that I call "spring dwindling" the result of exposure to a degree of cold that chills the bees, causes them to devour more food than they can assimilate, and gives them the diarrhea. Mr. Heddon says, "Spring dwindling is bee-diarrhea in disguise." I see no disguise about it.

I do not dispute what Mr. Corneil says, and Mr. Heddon so eagerly endorses, in regard to carbonic-acid gas mixing with other and lighter gases and diffusing itself through a hive. But this only takes place when the air is confined. With the vertical air-shafts for which I contend, there is a constant circulation, and the carbonic-acid gas descends by its own density before there is time for the combination and diffusion to take place.

Whether hibernation, or as Mr. Heddon prefers to call it (being only as yet half-won over to my side) semi-hibernation, is "an effect of bee-diarrhea preventives," or is "the prevention itself" as I maintain, time will tell. Of course Mr. Heddon, still clinging to the pollen theory, can only reconcile the state of quietude with that theory in the way he does; but while going the length of admitting the condition to be desirable, and induced by "bee-diarrhea preventives," it is rather inconsistent for him to pronounce my views "the most absurb claims which have yet been offered as the cause of our winter losses." Whether the hibernation or the pollen theory will carry off the palm of superlative absurdity remains to be seen. For myself, I calmly await the impending award.

Speedside, Ont.

For the American Bee Journal.

Does it Pay to Use Comb Foundation.

HENRY BATES, (120—160).

I cannot concur with the ideas advanced in the articles on comb foundation by Messrs. Hutchinson and Doolittle, in the BEE JOURNAL for 1884. In Mr. Hutchinson's case, the fault is not in the foundation or empty combs, but in the management. I think that he should have put a frame of brood and four or five sheets of foundation (or so many empty combs) in the hive, with two or three brood-frames filled with sections, the bees put on the unfinished honey-boxes from the old hive or new ones, as the case may be, and in four or five days spread the brood-frames and put in another frame of foundation, or an empty comb, and so on, about once a week, or as often as they need room for the queen to lay till they have all the frames they need, taking out the wide frames, putting the sections above as the room is needed for brood-frames. With the above management, I think that the colony would be considerably ahead of one hived on empty frames.

As I understand Mr. H. and Mr. D., they have concluded that it does not pay to use foundation at all in the brood-chamber; but in doing away with foundation, I think that we do away with about all the principles of scientific bee-keeping. We could not take frames of brood from stronger colonies to strengthen weak ones, or make nuclei without filling such hives with drone-comb. Mr. Doolittle tells us how to prevent the bees from building much drone-comb; but I think that the machinery would cost more than the comb foundation. The plan to manage swarms, which has been the most satisfactory to me, is, when a colony swarms, to take five or six combs of brood and honey out of the old hive and put them into the new hive, with about two frames filled with foundation or empty comb. Then hive the bees, put on the unfinished honey-boxes from the old hive, and let the bees go to work in the honey-boxes at once.

Some want to use an extractor to give the queen room. I do not do that way; but spread the brood and put in a frame filled with comb foundation. Some are troubled with too much swarming; but I do not have much swarming when I spread the brood or take out a frame of brood and put a frame of foundation in its place, occasionally giving them plenty of surplus room, shade and ventilation.

Comb foundation has come, and come to stay; and now all that we have to do is to learn how to use it to the best advantage. I, too, expect to experiment to learn how to use it; but not how to do without it.

Cuba, ♀ Ohio.

For the American Bee Journal.

Which way should Bee-Hives front?

15—J. M. VALENTINE, (165—192).

After reading Rev. M. Mahin's article on page 26, I thought I would like to give a few facts bearing on the same subject, as near as I can glean them from my bee-house record, covering a period of nine years.

Nine years ago last fall I built an octagonal shaped house with two tiers of hives, eight to the angle, all around it except to the south (in which is the door), and two hives out in the upper tier on the north for a window, making in all 54 hives permanently built in the house. Hence, I have hives in the house fronting in all directions, except due south; and the balance of my hives are out-doors, all fronting south.

I have never lost an average strong colony in the house from any cause, but I have lost 5 or 6 weak ones with bee-diarrhea, yet I have lost a greater number by dwindling and by loss of young queens after having cast a swarm. The loss of young queens has been the greatest trouble with those in the house. The greatest loss from all causes has been with those fronting southeast and southwest, and the fewest with those on the northwest and north, only one each from any cause.

The greatest amount of honey taken from a single hive was from those fronting northeast and northwest. On an average I have obtained more honey from those fronting northwest, north, and northeast; which I have attributed to the fact that there has been less swarming from those hives than from those fronting in the other directions.

I cannot give any reason why more young queens should be lost on the sunny side than on the shady fronts, unless it is that the queens are not used to the bright light, and that they can better see to mark the location of their hives on the shady side of the building. I cannot make any comparison as to the amount of honey obtained, between those in the house and the hives out-of-doors, from the fact that I have run those colonies in the house for comb honey, and the others for extracted.

Carlinville, ⊙ Ills.

For the American Bee Journal.

Consumption and Sale of Honey.

A. D. STOCKING, (65—80).

Having read Mr. Heddon's article on page 756 of the BEE JOURNAL for 1884, I am induced to present a few thoughts brought out by its perusal, for the study and investigation of all producers of honey. I will not quote any of his article, but simply ask all to read it. He has often referred to the over-production of honey, the depression of the honey market, and to farmers, mechanics and others going into the bee-business; but will he or any one tell us how the keeping of a few bees by the farmers, mechanics, and others for their own use or pleasure, affects the general market? How much is his own market affected by those who keep a few bees in his own county? Can he tell what per cent. of the farmers and others in Cass county produce honey and put it upon the market? What percentage of the farmers, etc. of the county do not purchase nor consume one pound of honey in a year? and tell us why they do not?

I may be wrong, but I will venture the assertion that not 15 per cent. of "the farmers, carpenters and small children, together with invalids and widows," of Cass county, keep bees; and also that not 30 per cent. of all the people of the county buy or use honey. Of course I cannot speak correctly for his section, but I know that in this part of the country there is not nearly this percentage of the people who produce or use honey. Would it not be well to look into the causes why so small a percentage of the people are consumers of honey and to try and induce them to become such? The dullness in the honey market is not due so much to over-production as to under-consumption. There are good reasons for this non-consumption of honey. There are but few farmers who keep bees or live near towns where honey is kept for sale, and there are but few towns where it is kept for sale. Where there is any effort made to introduce it for general consumption, it is generally looked upon as a luxury, and not as a necessary article of food. If the people could be educated to look upon honey as a really necessary article of food and medicine, and also that it is one of the cheapest, the market for it would be such that the present production would not nearly supply the demand.

It is true that the bee-papers are doing all they can to bring this about, but a small proportion of the people read them. This subject should be presented to the people through the medium of the country press, and its sale should be pushed, as the sale of all other goods is, through the hands of dealers and grocerymen generally. Put honey into all the country towns and cross-roads where there is a tradesman and bring it to the notice of the people through the country papers, and by means of circulars and Leaflets, until the trade is established, and then it will take care of itself. When the producers of honey take this course to establish a market for their honey, they need have no fears of over-production, nor of too many going into the business.

Ligonier, Ind.

For the American Bee Journal.

Winter Notes for the Apiary.

J. M. HICKS.

It will be to the advantage of the bee-keeper to see that all other farm-stock, such as horses, cattle, sheep and hogs, are not allowed to run at large in the same yard where the bees are located. Keep the snow from the entrances of the hives which have been left on the summer stands. If they are not well covered, I would suggest that a good cover be placed over each hive, and also that boards be set up in front of the hives so as to keep the snow and beating rains off of them.

It will pay the bee-keeper to see that all dead bees are kept cleared away from the entrances of all hives, so that the bees may have free egress when a favorable opportunity for flying presents itself.

Now is a good time to look after the hives that the bee-keeper expects to use during the next season; and if he has no good movable-frame hive, in which he can manage his bees successfully, I would advise him to procure a sample and make all he may need for 1885. As a matter of economy, it is best to have all hives well painted with two good coats of paint thoroughly mixed with pure linseed oil, as soon as they are made. Almost any color will answer.

Battle Ground, Ind.

For the American Bee Journal.

Tree-Trunk Hibernation Theory.

W. J. DAVIS.

When Mr. W. F. Clarke promulgated his "tree-trunk" hibernation theory, I really thought that he was indulging in an apiarian pleasantry; but enough has been written to assure me that at least some of the writers on that subject are in earnest, and really believe that a colony of bees does during certain seasons of the year, become torpid, in which condition they neither eat nor breathe until a certain degree of warmth arouses them to activity; and I am led to believe that this is the popular idea of hibernation.

On page 23, Mr. Dayton says: "From a gradual appearance of moisture when a uniform temperature is maintained, one might be led to infer that the moisture commenced to condense in the cooler portions of the hive as soon as the bees began to hibernate;" on the same principle, I suppose, that some claim that dead bees generate moisture in the hive.

That the ants of cold latitudes pass the winter in a state of stupor, is a fact established by observation; that they thaw out, revive and live is also a fact; but that a colony ever becomes torpid for any considerable length of time and afterward revive and live, is simply nonsense. But, "according to Webster," hibernation simply means "to winter, to pass the season of winter in close quarters, or in seclusion." If this be the accepted definition of the term, hibernate, then a colony of bees must of necessity hibernate in all northern latitudes, no matter what are their natural or artificial surroundings. If they pass the winter at all, they have hibernated, that is, if we count each individual colony as a unit. If hibernating is passing the winter in seclusion, and each individual bee is the unit, then, of course, they cannot hibernate, for a colony of bees cannot pass the winter singly. Will not Mr. Clarke find some other term to convey the idea intended by the word "hibernation?"

Youngsville, Pa.

For the American Bee Journal.

The Pollen Theory Must Go.

S. CORNEIL.

The advocates of the pollen theory have been told over and over again, that thousands of stocks* are wintered every year with an abundance of pollen in their hives, and yet they have no disease. The reply is that "the bees do not have dysentery every year because they do not eat pollen every year," and without the consumption of "vegetable matter, either in the form of bee-bread or floating pollen in the honey," there can be no diarrhea; that in some winters the cold is so intense, and long continued, that the bees are confined to one place on the combs, until all the honey within their reach is consumed, after which they will eat pollen rather than starve; that this consumption of pollen "takes into the system matter that readily over-loads the intestines," and if they have no opportunity to void on the wing, disease ensues.

I reply, 1, that several cases are on record, in which, on dissecting healthy bees, confined in winter quarters, pollen has been found in their intestines. Dr. Donhoff and Prof. Leuckhart made such examinations and found pollen in the intestines of the bees, on every occasion except in the month of November. I made repeated examinations with the microscope last winter, when searching for dry fæces. The bees examined were taken from beneath a woolen quilt where they were very drowsy. I could always find pollen in the contents of their intestines, but there was no diarrhea.

2. I refer those who say that without pollen-eating there can be no diarrhea, to the experiment of Baron Berlepsch, described on page 371 of the BEE JOURNAL for 1881. He says: "In 1865, for sake of an experiment, I wintered a very strong colony without any pollen, but plenty of honey, and in the spring of 1866 it was the only colony among 70 which showed signs of restlessness and dysentery."

Messrs. Wm. Camm, Martin Metcalf and Dr. E. Gallup state, as the result of their observations, that stocks having no pollen, or a scarcity of it, do not winter as safely as do those which are well supplied.

3. I emphatically deny the truth of the statement that scarcity of honey within reach of the cluster, will cause the bees to eat pollen, so as to produce diarrhea. In a recent number of the BEE JOURNAL, Dr. C. C. Miller mentions a case in which one of his colonies starved outright, leaving plenty of pollen in the combs, but not a drop of honey, and yet there was not a trace of diarrhea about the hive or combs. Last winter 13 of my stocks starved in the bee-cellar and one which I sold and guaranteed to winter safely, starved outside. I examined carefully each of the 84 combs belonging to these stocks. There was not a cell of honey in any one of them, but there was plenty of good sound pollen. There was no abdominal distension in the bees which starved outside, nor were there any signs of diarrhea. Those which starved in the cellar were in hives without bottom-boards. The combs were clean and bright, showing none of the usual signs of diseased bees. Additional evidence on this matter will be found, later on, in the observations of Messrs. D. A. Jones and J. W. White regarding winter-breeding.

4. I now go farther and state that bees often eat pollen quite freely while continuously confined to their hives, for five or six months, without over-loading their intestines, so as to produce abdominal distension, diarrhea, or spring dwindling. In taking this ground I dispute the claim which is most essential to the truth of the pollen theory. I ask the careful attention of the reader to the testimony quoted in support of my position.

Mr. Heddon says: "Whatever will cause winter breeding will engender the disease," and other supporters of the theory are in accord with him, because in rearing brood for any length of time, the consumption of pollen in considerable quantities by the bees, is indispensable, and this causes, as they say, "an aggregated loading of the intestines" producing disease unless the bees have a chance to fly. They are correct as to the consumption of large quantities of pollen in brood-rearing, but it seems strange that none of these writers ever noticed that extensive brood-rearing with its attendant consumption of pollen, frequently does take place in confinement, without producing abdominal distension, diarrhea, or spring dwindling. In support of the fact that this often occurs I submit the following testimony:

Sometime in February, 1882, Mr. D. Reekie, a bee-keeper residing about 30 miles west of this place, called on me and during our conversation he mentioned that his bees had then nearly as much brood in their combs as they should have in summer, and asked my opinion as to the probable consequences. I said I never had such a case, but I knew that some of the writers in the bee-papers would say that his bees would certainly have dysentery* before spring. At the late Ontario Bee-Keepers' Convention I asked him to state the particulars of this case. After describing the condition of his bees in the cellar, he added that they all came out in good condition the following spring, and that they swarmed early.

Mr. D. A. Jones then told us that, last winter, for some reason, he thought owing to a little light getting in at a door in one of his wintering houses, several colonies deserted their hives and entered others nearer the door. These hives became so crowded that the bees started brood-rearing extensively, in consequence of which they consumed all their honey and starved, leaving brood in all stages, in from four to six combs in each hive. On examination, the combs were found to contain pollen. They were clean and bright and the bees had no appearance of disease.

On page 381 of the BEE JOURNAL for 1881, Mr. J. W. White writes: "In keeping bees for 17 years I have not made notes on every point but I think I may call the following a statement of facts: The colonies which wintered well were not deficient in pollen. Good colonies which starved to death exhibited no signs of disease from the use of pollen or any other cause. Good colonies which were confined for months in the cellar and were short of stores, so that they had to be fed in March and April to keep them from starvation, showed no signs of dysentery brought on by using pollen to save scanty stores of honey. In the winter of 1871-72, before I had heard of the bad effects of pollen and winter brood-rearing, and when I knew they reared brood in February, I fed my bees for about five weeks, in the cellar, a mixture of honey and flour to stimulate brood-rearing. Did they rear brood? They did. Did they get dysentery? They did not. Did they do well the next summer? It was the best year I ever had."

On page 24 of the BEE JOURNAL for 1876, Mr. T. S. Bull describes a case in which one of his hives was accidentally upset in the bee-cellar, breaking down the combs. He fixed it up as best he could. Before spring the bees had built a frame full of new comb which was filled with brood and from which young bees had emerged. When taking his bees out in the spring this colony was found to be in splendid condition.

On page 286 of the same volume, Mr. Frank Benton describes how to prepare stocks for successful outdoor wintering. He says: "I have had stocks prepared in this manner that reared brood all winter and were in splendid condition for the next season's work. There will be no trouble about "springing" such stocks."

On page 118 of *Gleanings* for 1882, Mr. Frank Boomerhower says: "Some say that rearing brood in the cellar causes uneasiness and dysentery and spring dwindling; but if this be so, others must have different bees from mine. I have never yet had a case of spring dwindling nor any dysentery. My bees rear brood nearly all winter, never get uneasy, and always come out strong in the spring. My experience is that to have bees winter successfully, without loss, and come out strong in the spring, without spring dwindling, they must be wintered in such a shape that they will rear brood from the last of December."

Rev. E. L. Briggs has kept bees for over 30 years. In 20 years of cellar-wintering he has not lost to exceed one per cent. On page 198 of the BEE JOURNAL for 1882, he says: "Somehow our bees out here (in Iowa) persist in living through this winter, though their combs are full of pollen, and though they have been breeding quite plentifully ever since the first of January. Something else, then, besides pollen and breeding causes dysentery."

Mr. H. V. Train has wintered his bees in a cellar for 15 years. He has not lost 5 per cent. in any winter and for the last five years has not lost one per cent. He says: "I have become so confident in my cellar and my ability to manage it, that I would not give one per cent. to have my wintering insured, if the bees are in natural condition in the fall, and I do not care how much pollen they have either." In 1879-80 his bees reared brood extensively in the cellar. When putting them out that spring, many of his 144 hives were crowded with young bees but all were in good, healthy condition. In the disastrous winter of 1880-81 he had 138 stocks confined in the cellar without a flight, for five months. One stock in a box-hive died of dysentery, being the only case of the disease he had. On putting them out nearly all had brood in all stages. Nearly one-half of his hives were literally full of young bees, being stronger in number than when placed in the cellar in the fall. The following summer he was able to offer ten bushels of bees for sale by the pound.

Mr. H. R. Boardman, "the man who does not lose his bees in winter," is not afraid of having plenty of pollen in his combs in the fall. He winters in a house built for the purpose. His hives are carried in without bottom-boards, the first row being placed on scantling. They are then tiered up, pieces of two-inch stuff being placed between the tiers. He finds that his bees start brood-rearing in February, and to keep it up he supplies water and artificial heat, when necessary. On putting them out in the spring his bees are always healthy and his hives crowded. During the winter of 1880-81 his bees were confined in winter quarters without a flight from Nov. 15 till April 15. After putting them out he writes: "I cannot see what the long, cold winter has to do with success so long as the bees are in proper condition and kept so inside a warm house." Out of 140 colonies he lost 4 by starvation. In another house at a distance, he lost 6 out of 70 from the same cause. In the following June he advertised 100 bushels of bees for sale by the pound. He has been

equally successful since. Last year he wintered 241 stocks without loss or spring dwindling.

The foregoing is the testimony not of mere novices who sometimes stumble upon success, one winter accidentally and lose their bees the next without knowing the reason why, but of men who have been successful year after year, and who know how to control circumstances so as to bring their bees through safely, no matter what may be the character of the season.

The combined weight of the evidence establishes, once for all, the fact that free consumption of pollen by bees, when confined in winter quarters, does not necessarily produce bee-diarrhea; and as none of the bee-keepers quoted find it necessary to remove pollen or substitute sugar syrup for honey, in order to insure success, it establishes another fact which has been of late called in question, viz: that honey and pollen, the food provided by nature for bees, are good enough for their winter stores.

In view of the evidence which has been adduced, I believe that a large majority of the bee-keepers will agree with me that the pollen theory "must go."

Lindsay, Ont.

[*Mr. Corneil clings tenaciously to the use of the word *stocks* instead of "colonies," and dysentery instead of diarrhea. We print these words as written, by his particular request, without endorsing their appropriateness or correctness.—ED.]

The Late Mr. D. S. Given.

The Los Angeles County Bee-Keepers' Association appointed a committee to draft resolutions of respect to the memory of the late Mr. D. S. Given. That committee has reported and the following was adopted by the Association:

David S. Given was born in Muskingum county, Ohio, in 1844, and early in life took a lively interest in apiculture, and the then rising industry found in him a progressive, enterprising worker. Gathering information from such men as L. L. Langstroth and Quinby, in the year 1864 he removed to Illinois, where he gave much study and labor to perfecting the Comb Foundation Machine which is called the Given Foundation Press. Failing health induced him to remove to Southern California, and in December, 1881, he joined our association. His kindly, gentlemanly disposition endeared him to every member of our society, and his ingenious mind suggested to us very many new and useful methods in the care of bees and their products. He was a constant attendant at our monthly meetings, and took a lively interest in the well-being of our association. Mr. Given died on July 10, 1884, at his residence, three and a half miles north of Los Angeles, leaving a wife, and one child about five years old, to mourn his loss.

RESOLVED, That one page of the Minute Book be dedicated to the memory of our esteemed friend and member, and that the report of the committee be engrossed upon the same.

RESOLVED, That his family have our heartfelt sympathy in their great loss, and that a copy of this report be sent to them by our Secretary.

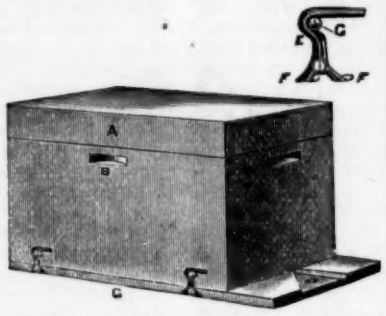
For the American Bee Journal.

Bottom-Board Fastener for Hives.

HOWARD U. ACKERMAN.

One would naturally suppose that with all the improvements made in bee-hives and "bee-fixings" during the past few years, that a new fixture would be superfluous; perhaps it is, but, nevertheless, it has appeared to me for a long time that in nearly all of the different styles of hives, there was one weak point in common, viz: the bottom-board.

It has been a study with me for the past year or two, how to construct a hive with a movable bottom, so as to combine the desirable features of a movable and a stationary bottom, and at the same time avoid the disadvantages of both styles as at present constructed and used. I at last hit upon the device shown by the accompanying illustration; with what success will be decided by the progressive bee-keepers of the country. Although the illustration shows the hive and hook so plainly, perhaps a word in explanation will give a more correct understanding of it.



The illustration represents a single-story hive, A being the cover, B the body, and C the bottom-board. The bottom-board which may be made of either ¾ or ⅞ inch boards, is cleated at each end to prevent warping, and has a graduated entrance cut into the end intended for the front, as shown at D. E is a malleable iron hook, four of which are fastened to the bottom-board—two on each side—by the aid of a screw, as shown in the figure, and the lugs, F F. The lugs are drawn tight against the underside of the bottom-board, and help to hold the hook securely in place. G is a screw driven into the body of the hive under the arm of the hook, and is left projecting about ⅜ of an inch.

To enlarge the entrance or to remove the hive from its bottom-board, one has only to slide the body forward several inches, lift it a couple of inches, and put it to one side. If it is desired to carry the hive into or out of the cellar, or to a distant part of the apiary, slide the body of the hive back, as is represented in the illustration, thus rendering it bee-tight for the time being, and it is then ready to be carried all over the neighborhood without any danger of the carrier being stung.

To convert it into a hive suitable for shipping bees, drive a small nail or brad back of each hook at E. This fastens the bottom as securely as if it were nailed direct to the body of the hive with 8-penny nails. Ventilation can be secured by holes bored into the cap or body covered with wire-cloth, or in any other way suiting the fancy of the shipper. A Langstroth, or any similar hive with a permanent bottom can be changed into a hive with a movable bottom by removing the bottom and using the hooks. I have a few standard Langstroth hives made over this way, and they work quite as well as the Simplicity.

North Indianapolis, ⊙ Ind.

For the American Bee Journal.

That Reversible Frame.

C. J. F. HOWES, (48—60).

I have read with much interest the article by Mr. Heddon, on page 8, and I think that it is a very able one, which may be considered as settling the question of the advantage of reversing the brood-frames; but there is one part of it in which I feel that injustice is done; *i. e.*, the impression that he conveys, of being the originator of the device described. I can scarcely believe that Mr. Heddon intended to put forth such a claim, in the face of all the facts to the contrary; but such claim is certainly conveyed by a perusal of his article.

Mr. Heddon says: "About a year ago *I devised* the style of reversible brood-frame, as shown by the illustration." (The italics are mine.) Now, what are the facts? At the annual meeting of the Southeastern Michigan Bee-Keepers' Association, held at Adrian, Mich., on January 23, 1884, I exhibited samples of a device for reversing brood-frames, which device or plan suspended the frame by strips of wood or metal, which strips were pivoted to the center of the end-bars, and extended up to the top of the frame, there forming projecting arms to rest on the rabbets, and allowing the frame to revolve on these pivots.

In describing the device before the convention, I distinctly claimed, as my invention, the plan of suspending the frame between side-strips pivoted to the end-bars, as described.

This device was illustrated and described in *Gleanings* for March, 1884, page 156. To that article Mr. Heddon replied in *Gleanings* for April, 1884, page 232, criticizing the reversible-frame method, and advised "reversing the whole hive." In *Gleanings* for May, 1884, page 336, Mr. Heddon "reversed" his opinion and acknowledged his belief that reversing the single frame was the correct plan; and he sums up the matter as follows: "It may be argued that Mr. Howes' frame is expensive. That is true; but it need not be, as I will show you in the future."

In that article Mr. Heddon plainly states that his efforts had been directed towards a reversible hive instead of a reversible frame. This was over three months after my frame had been before the public. Evidently he then considered the

plan my invention, and only intended to modify or cheapen it. That this is so, one has only to examine and compare the frames, as illustrated; his modification being a connecting of the end-strips of my frame, by a bar over the top. Whether this is, or is not, an improvement, future experiment must decide.

Adrian, ♀ Mich.

For the American Bee Journal.

Hibernation and Pollen in 1764.

C. L. SWEET.

Sometime last winter I purchased an old English book from an English family that were selling out. It was published in London, England, in 1764. The title of the book is: "The Complete Farmer, or General Dictionary of Agriculture in all of its Branches: Together with the method of Rearing Bees and of acquiring large quantities of Wax and Honey, without destroying those laborious insects: Published by a Society of Gemtlemen, Members of the Society for the Encouragement of Arts, Manufactures, and Commerce." The following extract from this book perhaps will be of interest to the readers of the BEE JOURNAL, as the hibernation and pollen theories are now being discussed. It will be interesting, as showing how far experimenters had got on these questions in 1764:

"Providence has ordained that insects which feed on leaves, flowers, and green, succulent plants, are in an insensible or torpid state from the time that the winter's cold has deprived them of the means of subsistence. Thus the bees, during winter, are in so lethargic a state, that little food supports them; but as the weather is very changeable, and every warm or sunny day revives them, and prompts them to return to exercise, food becomes necessary on these occasions.

"Mr. White very judiciously observes, that a greater degree of cold than is commonly imagined to be proper for bees, is favorable to them in winter. 'If a sharp frost,' says that experienced gentleman, 'continues for two or three months, without intermission, you may observe, through your glass, that the bees are all this time closely linked together in clusters between the combs. If they are not altogether without motion, yet it is certain that they stir not from their places, while the cold continues, and therefore eat not at all. A colony of bees, therefore, placed on the north side of a building, will waste much less of their provisions, than others which stand in the sun; for coming seldom forth, they eat little; and yet in the spring are as forward to work and swarm, as those which had twice as much honey in the preceding autumn. The owner should, however, examine their state in the winter, and if he finds that instead of being clustered between the combs, they fall down in numbers on the stool or bottom of the hive, the hive should be immediately carried to a warmer place where they soon recover.

"Most writers on the subject have observed that these insects are subject to a kind of purging in the spring, which is often fatal to the whole hive. Madam Vicat ascribes this distemper to the honey being candied in the hive by the cold. But Columella describes it as an annual distemper which seizes them in the spring, when the spurge blossoms, and the elm discloses its seeds; for the bees, being allured by the first flowers, feed so greedily upon them that they surfeit themselves therewith, and die of a looseness, if they are not speedily relieved.'

"He relates Hyginus's advising, in this case, to cover the bees with ashes of the fig-tree; and affirms, that, being enlivened by the warmth of these ashes, the bees will revive in two hours, and go into a hive brought to them. Columella advises giving them rosemary and honey diluted with water. Aristomachus seems to have prescribed the most effectual cure, namely, to take away all the vitiated combs, that is, all the combs in which there are open cells appearing to contain candied honey.

"The authors of the *Maison Rustique*, impute this purging to the bees' feeding on pure honey, which does not form a food sufficiently substantial for them, unless they have bee-bread to eat at the same time; and advise giving them a honey-comb taken from another hive, the cells of which are filled with crude wax or bee-bread.

"The common practice is to feed them in the autumn, giving them as much honey as will bring the whole weight of the hive to nearly twenty pounds. To this end, the honey is diluted with water, and then put into an empty comb, split reeds, or, as Columella directs, upon clean wool, which the bees will suck perfectly dry.

"The following directions given for this purpose in the *Maison Rustique*, seem to be very judicious: 'Replenish the weak hives in September, with such a portion of combs full of honey, taken from other hives, as shall be judged to be a sufficient supply for them. In order to do this, turn up the weak hive, after taking the precaution of defending yourself with the smoke of rags, cut out the empty combs, and put the full ones in their place, where secure them with pieces of wood run across, in such manner that they may not fall down when the hive is returned to its place. The bees will soon fix them more effectually. If this method be thought too troublesome, set under the hive a plate of liquid honey, unmixed with water, with straws laid across it, and over these a paper pierced full of holes, through which the bees will suck the honey, without daubing themselves. This should be done in cloudy or rainy weather, when the bees stir least abroad; and the hive should be covered, to protect the bees from robbers, which might be allured to it by the smell of honey.'"

Glenwood, ♂ Ills.

For the American Bee Journal.

Italians vs. Foul Brood, etc.

GEO. W. WEBSTER.

A few years ago I found some of the colonies in my apiary at Bonair, Iowa, troubled with what I feared might prove to be foul brood. There was more or less dead brood in the cells, varying from a few cells in each frame to one-half of all the brood, and this in the middle combs, too, so that it could not be accounted for as chilled brood. It also continued all summer. The bees kept at work gathering a surplus of honey, and sometimes swarming, but they did not do as well as the other colonies. There was no foul odor about the hives.

I wrote to Mr. G. M. Doolittle, describing the disease, but he did not think that it was foul brood. Neither did I; still I was anxious about it and watched it very closely. It did not seem to spread in the apiary. Of course I tried to not give much opportunity for other bees to get any of the honey. One colony finally became so bad that I concluded to brimstone the bees, heat up the honey, and melt the combs into wax.

About Aug. 15, I took out the queen and did not allow the bees to rear another, thus getting rid of all living brood. This also gave them a chance to fill the hive with honey. When the first frost came I brimstoned the bees, when, to my surprise, I found as nice and clean combs of honey as I ever saw. There was not the least sign of any dead brood having been in the colony.

The next year 5 or 6 colonies showed signs of the disease. At this time I was rearing Italian queens and Italianizing my apiary as fast as I could get pure queens, keeping out all impure drones. I had but few hybrids left, and I noticed that the dead brood was confined to the hives containing darkest hybrids. As fast as I could give these pure queens, all signs of dead brood disappeared; *i. e.*, when the pure Italians began to hatch. At the end of the season only one colony had any dead brood, and that was a colony of dark hybrids.

The next winter I had all the bees in large chaff hives, and left them on the summer stands. My apiary was centrally located in a grove of twenty acres of cottonwoods, poplars, maples and evergreens, 25 to 60 feet high, affording the most complete protection from winds, and I only lost one colony, that being caused by the entrance becoming closed so that the bees could not get out. In the spring I watched the colony of diseased hybrids with much interest, to see if the warmer hive would help them to keep out the foul brood, as I had an idea that the disease originated in the spring by the brood becoming chilled. It seemed, however, to make no difference; there was as much dead brood as ever.

As soon as I could I gave them a queen-cell from an Italian colony, and in due time they had a pure queen By the time the colony was half Ital

ianized, not a vestige of dead brood could be found in the hive. I account for the change in one of two ways: Either the Italian brood has more vitality to resist disease, or the effect was produced by the greater energy of the Italians in cleaning up the combs and keeping all foul matter out of the hive.

I have no doubt that many colonies have been destroyed on the suspicion that they had foul brood, when the introduction of Italian queens would have obviated all difficulties. The Italians are better house-keepers and nurse-bees, and more vigorous in protecting their hives from all intruders. They keep the brood covered better in cool weather, or when the hives are opened. I have found light-colored hybrids as good workers as pure Italians, but not so easy to handle. In my own experience I have found that the darker the bees the crosser they are.

When the above-mentioned colony of hybrids were changed to about one-half pure Italians, by the introduction of an Italian queen, and all signs of dead brood had disappeared, I concluded to extract the honey, which I had not done before lest other bees might get the honey. The dark hybrids were very cross, but with a good veil, my hands covered, except my fingers, and an assistant to smoke the rascals when they went on the war-path, I attacked them and took 60 pounds of nice, white clover honey, but received ten stings in the operation from the remaining hybrids. My assistant received three or four stings and then retired to a place of greater safety. I would rather handle 3 colonies of Italians than 1 of dark hybrids or blacks, and I shall defend pure Italians every time until I find something better.

In November, 1883, I came to Florida and shipped by express some nuclei with untested queens, so as to be sure to get a good stock of Italians. Thirteen out of 15 queens, proved to be pure Italians. In January there were severe frosts, for this country, and quite cool weather for nuclei. As soon as the bees were well at work, and the brood was hatching, I found dead brood in one nucleus of the hybrids. As soon as I could rear a pure queen for them, the dead brood all disappeared as it had done in Iowa.

We are not situated in the best location for honey, as we came here for health, and not purposely to keep bees. In my opinion the only healthy places in the South are on what is called high pine land, and several miles from any sluggish river or rich hammock land. We have taken nearly 50 pounds of honey per nucleus, sold $13 worth of queens, and have 22 colonies on hand. This, perhaps, is not a very good showing, but a fair profit on our labor.

I know of no place in Florida where bee-keeping could profitably be followed exclusive from other business except at New Smyrna, 18 miles east from here, and there is only a small section of a few miles in length where the black mangrove grows on the islands in the Helsborough river. That location is already pretty well occupied. We are 9 miles east of the St. John's river, and 18 miles from the coast, near the eastern boundary of what is called high pine land, so that our bees have the range of high pine flat-woods a mile to the east, and scrub at one point within one-half mile south. Scrub is a worthless white sand covered with scrub pine and a great variety of low brush, palmetto, whortleberry, etc. Flat-woods are low and very level, during the wet season a good deal of it being covered with water.

Raising oranges and other fruit is the principal business here, and it is not much trouble to keep a few bees also. We had three honey-flows when the bees gathered a surplus: In January, from the scrub pine; in February and March, from Orange blossoms; and in May, from palmetto. We have been here three winters, and the season of blossoming has varied from 4 to 6 weeks. This winter we have had no frost, and orange trees are putting out blossom buds now. Last year we had hard frosts in January, and oranges blossomed in March.

I think that this is a very healthy place for people troubled with catarrh, asthma, bronchitis or rheumatism. Dyspeptics are often much benefited in the pine woods. But to get health here, one needs to be out-of-doors a great deal. The soil is a light sand, and will not produce much without being fertilized. Many people buy all their vegetables, but with a little fertilizing we are having as nice vegetables as I ever ate in any country. Cabbages, turnips, collards, radishes, beets and lettuce are very nice and tender. Egg-plant, tomatoes, squashes and melons are easy to raise. Sweet potatoes grow every where, but one has to learn how to cultivate them. A poor man here would have to support himself by working for others at $1.25 to $1.50 per day for common work.

Lake Helen, ⊙ Fla., Jan. 13, 1885.

For the American Bee Journal.

The International Congress.

The bee-keepers who signed the Call for the International Congress, now add the following "Notes for bee-keepers who intend going to the Convention at New Orleans on Feb. 24, 25 and 26, 1885:"

The Convention will assemble at 10 a. m. in the Lecture Hall on the Exposition Grounds. Among the subjects which will be considered during the sessions of the Convention will be reports of the honey resources and production of America and Europe; preparation of honey for market; transportation; lower rates of freight; marketing; the advantages of the use of comb foundation; sections, the best size and the best way to use them; the best race of bees for America; prevention of swarming; fertilization of queens; bee-pasturage; bee-keeping as a pursuit; besides the discussion of other questions of interest that will be propounded. Essays to elicit discussion are expected from some of the most prominent bee-keepers of Europe and America.

Bees and bee-keepers' supplies for exhibition must be sent with *all freight prepaid*, and directed to Maj. E. A. Burke, Director General of the Exposition, for Department of Agriculture, New Orleans, La. The Board of Management of the Exposition has established a Department of Information and Accommodation, at Nos. 164 Gravier and 15 Union streets, for the purpose of furnishing visitors with information as to suitable board and lodging houses, or furnished rooms with directions how to reach them. For such service no charge is made.

Bee-keepers, on arrival in the city, are advised to go at once to the office of this department and make the best arrangements that they can for quarters, and if they will leave their cards and address at the same place, their friends will know where to look for them. The most of the visitors to the Exposition find it best and cheapest to rent rooms and take their meals at restaurants. Furnished rooms will cost from 75 cents to $1 for each person, per day, and board and lodging about double these rates. We are assured that the hotels have not advanced their rates, which are $2 to $3, according to the location of rooms, etc.

THE COMMITTEE.

Local Convention Directory.

Time and place of Meeting.

1885.

Feb. 4.—N. E. Michigan, at Vassar, Mich.
W. Z. Hutchinson, Sec., Rogersville, Mich.

Feb. 11.—Seneca Co., N. Y., at Ovid, N. Y.
Ira Wilson, Sec., Ovid, N. Y.

Feb. 17.—Ohio State, at Columbus, Ohio.
C. M. Kingsbury, Sec., Mt. Vernon, O.

Feb. 24-26.—International, at New Orleans, La.

Mar. 11.—New Jersey and Eastern, at N. Y. City.
W. B. Treadwell, Sec., 16 Thomas St., New York.

April 3.—N. E. Kansas, at Hiawatha, Kans.
L. C. Clark, Sec., Granada, Kans.

May 4.—Linwood, Wis., at Rock Elm Centre, Wis.
B. Thomson, Sec., Waverly, Wis.

May 28.—N. Mich. Picnic, near McBride, Mich.
F. A. Palmer, Sec., McBride, Mich.

June 19.—Willamette Valley, at La Fayette, Oreg.
E. J. Hadley, Sec.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ The New Jersey and Eastern Bee-Keepers' Association will hold their next annual convention at Cooper Union, in New York City, beginning on Wednesday, March 11, 1885, and to continue two days or more. The committee promises a good programme, and extends a cordial invitation to all.

W. B. TREADWELL, Ass't. Sec.

☞ The Ohio bee-keepers will hold their annual convention in the Agricultural Room of the State House at Columbus, Ohio, on Feb. 17, 1885. All subjects pertaining to bee-culture will be discussed, more especially those of spring and summer management of bees. Eminent speakers will be in attendance. All are cordially invited.

C. M. KINGSBURY, Sec.

SELECTIONS FROM OUR LETTER BOX

☞ A. F. Unterkircher, Manchester, Mich., on Jan. 16, 1885, writes as follows concerning the past season:

The season of 1884 was very unfavorable for bees in this section, on account of the weather being so extremely dry for white clover and fall flowers. There are many acres of buckwheat within reach of our bees, but it is most certainly a very poor honey-plant. Basswood was a failure, and scores of basswood trees are being made into pickets for fences. I obtained my first 9 colonies of bees in the fall of 1881, and from them I now have 80 colonies all in good condition. I have lost only one colony, which died from starvation with plenty of honey in the hive.

☞ R. P. Williams (15—15), Goldsmith, Ind., on Jan. 12, 1885, reports thus:

The past season was a very poor one for honey here. There was an abundance of white clover bloom, but very little honey was gathered from it, and basswood did not yield much honey. There will be considerable loss among those who paid no attention to their bees. I started in the spring with 15 colonies, and obtained only 300 pounds of extracted honey, and had no swarms at all. I never have secured any fall honey, and never have lost but one colony of bees with bee-diarrhea: that was in the winter of 1880, and I fed it on dark sugar. I never take any pollen from them in the fall, but let them be their own judge of that. They are all alive yet.

☞ 10—John Rey, (35—56), East Saginaw, Mich., on Jan. 17, 1885, reports as follows as to the condition of his bees:

My bees are under the snow, one-half of the hives being entirely out of sight, and the caps of the other half being slightly visible. We had a snow-storm here today, and the snow drifted badly; but I am not alarmed about my bees, for I have the bottom-boards cut off even with the bottoms of the hives, and the hives leaning forward. There is no chance for the water to run into the hives, and when it thaws I will shovel the snow away. This same thing occurred to my hives three winters ago, and the bees wintered all right. They get plenty of air under the snow.

☞ J. Rutherford, Scranton, Pa., writes thus about "a hard nut to crack:"

On page 5, Mr. G. M. Doolittle says: "The first fact to which I wish to call the reader's attention, as bearing on this winter question, is that the intestines of the newly hatched bee are filled with pollen when it emerges from the cell, etc." Now, if I understand things rightly (scientifically), the intestines of the young bee are not filled with pollen, because the young bee in the larval state does not eat pollen; therefore, it is impossible for any one to see it with the naked eye. The food of the young bee consists of a purely animal secretion, which is, no doubt, produced by a gland in the gullet of the nurse-bee, and this highly prepared food is absorbed by the larva, leaving no matter to void; and it is also a fact that we often find our 4-frame nuclei with young queen put into winter quarters, weak with bees, and after four months' confinement come out in the spring bright and clean, and stronger than two-thirds of our best colonies. Will Mr. Doolittle kindly reply through the BEE JOURNAL, as all I want is to get at the truth of the matter.

☞ W. H. Miller, Berrien Springs, Mich., on Jan. 19, 1885, reports thus:

Last spring I started with 35 colonies and increased them to 68, which are now packed in shavings on the summer stands. All seem to be doing well, as they remain very quiet. I think that they have enough honey to last them through the winter. I obtained about 1,100 pounds of white comb honey; nearly all of it being in one-pound sections.

☞ James Heddon, Dowagiac, Mich., writes as follows about hybrids and pollen:

While we all expect Prof. Cook to lead us upon all topics specially belonging to the entomology of bees, I wish to thank him for his expression of what he has found to be true regarding hybrids and pollen, as given on page 41. I have 91 colonies in a new cellar. This cellar is damper than the old one. I have purposely "abused the bees" in this cellar, by allowing the temperature to get below the freezing point, by several degrees, being aware, as Prof. Cook says, and as I have formerly said, that bees can winter well with plenty of pollen in the hive, if all other conditions are right; and as a part of the colonies are sugar-fed and pollenless, while a lesser part have honey and pollen, I hope to get a test.

☞ R. A. Rosser, Nelsonville, O., on Jan. 19, 1885, reports as follows:

My apiary is all that helped me out this season. I have obtained 1,100 pounds of comb honey from 22 colonies, spring count, and I increased them to 42 colonies, by natural swarming. I think that is pretty good, considering the dry season. I think that the BEE JOURNAL is a great help in bee-keeping.

☞ Earle Clickenger, Columbus, Ohio, on Jan. 19, 1885, reports thus:

In the fall of 1883 I had 25 colonies packed in chaff-hives on the summer stands, but I lost one by starvation. In the spring of 1884 I purchased 15 colonies, increased them to 54 colonies by natural swarming, and I obtained 1,500 pounds of comb honey and 500 pounds of extracted. The past season was the poorest one for honey in the past 5 years. I have 28 colonies in my bee-cellar, and 26 colonies packed in chaff on the summer stands.

☞ 27—F. A. Snell, (80—110) Milledgeville, Ills., on Jan. 21, 1885, reports thus:

I am much pleased to notice that the BEE JOURNAL is of age. It has done a noble work in the years of its existence. Through its pages a vast amount of information has been gleaned by its host of readers. I have kept bees for 27 years (for 25 years in my present location), and I have been a regular subscriber to the BEE JOURNAL for 17 years, and to which I owe very much of the knowledge which I now possess. I am especially well pleased with it this year. In November, 1883, I put 105 colonies into winter quarters, and in April, 1884, 100 of the number were placed on the summer stands, having lost 5 from various causes. I sold 20 in the spring, and thus commenced the season with 80 colonies. I increased them to 110 colonies, which were put into winter quarters about Nov. 20, 1884. My surplus honey was fine in quality, having been gathered from clover and linden bloom. I obtained 2,200 pounds of comb honey, and 3,000 pounds of extracted, being an average of 65 pounds per colony, spring count. We had none of the so-called honey-dew. I winter my bees mostly in the cellar, which, for a long term of years, has proved to be the best place or method that I could find, and I have experimented a great deal in this direction. The past season, with me, was below the average, and those apiaries run on the "go-as-you-please" plan here, produced but little or no surplus honey. In the death of Mr. W. W. Cary, our fraternity has lost a noble brother.

☞ Lee Emrick, Lone Tree, Mo., on Jan. 20, 1885, reports as follows:

The past season's honey crop was light here, and consequently there was no trouble to find sale for extracted honey at 15 cents per pound. Bees were in good condition when they were put into winter quarters. This winter, so far, has been a severe one for this latitude. The temperature was down to 12° below zero this morning, and the ground is covered with 6 inches of snow. Cass county is on the western border of Missouri, and Lone Tree is 50 miles south of Kansas City.

☞ A. P. Lawrence, Hickory Corners, Mich., on Jan. 17, 1885, reports thus:

Last winter I wintered 34 colonies of bees and bought some, so I had 50 colonies to start with in the spring. I increased them to 84 colonies, and my crop of honey was 1,000 pounds of extracted and 1,300 pounds of comb honey. One colony gathered 50 pounds of honey in one week. There was a splendid flow of honey before harvest, but there was not much honey after Aug. 1. I have 91 colonies in the cellar in good condition. I use comb foundation, and I should have it if it cost $1 per pound. My bees never amounted to much until I used comb foundation. Italian bees are my favorites—no black bees for me. I have wintered my bees in the cellar for 6 years, and never lost a colony that had honey enough to winter on. I have no trouble in wintering bees if they have plenty of good honey, but the worst trouble is to keep them from dwindling in the spring.

☞ Ellery D. Frost, Almond, Wis., on Jan. 13, 1885, reports thus:

A year ago last spring I had one colony of bees which I increased to four. They wintered well in the cellar, where I now have 8 colonies with from 20 to 40 pounds of good honey in each hive. The main source of honey here has been white clover which was very abundant during June and July. I obtained 400 pounds of honey, 140 pounds being the most taken from one colony. There are few bees in this section, and not many wild honey-producing flowers, but clover is very abundant.

☞ The executive committee of the North American Bee-Keepers' Society have decided to hold the next annual meeting at Detroit, Mich., on Dec. 8, 9 and 10, 1885. If there is any reason why this date is undesirable, it should at once be made known, so that the committee may be governed accordingly. W. Z. HUTCHINSON, Sec.

[As the Michigan State Convention has already decided to meet with the National at Detroit, would it not be a good idea to have the "Northwestern" of Chicago also meet at the same time and place, and have one grand, rousing meeting?—ED.]

Convention Notices.

☞ It is proposed to hold an International Bee-Keepers' Congress on the World's Exposition Grounds at New Orleans, La., Feb. 24, 25 and 26, 1885. An interesting programme of subjects of great importance to every bee-keeper in America will be presented and discussed. The disposition of our honey product, with a view to secure better prices will be fully considered. At the same time there will be an Exhibit of Bees and Apiarian Supplies. At the time now selected, the Exposition will be at its best, and excursion rates low. The bee-keepers of our country should lay aside business for a week or two, and make every exertion to attend this Convention. Come prepared with facts, statistics and ideas arranged, to take part in its deliberations.

Dr. J. P. H. Brown, Augusta, Ga.
Dr. N. P. Allen, Smith's Grove, Ky.
W. Williamson, Lexington, Ky.
Dr. O. M. Blanton. Greenville, Miss.
P. L. Viallon, Bayou Goula, La.
Judge W. H. Andrews, McKinney, Tex.
W. S. Hart, New Smyrna, Florida.
S. C. Boylston, Charleston, S. C.
H. C. Austin, Austin's Springs, Tenn.
R. C. Taylor, Wilmington, N. C.
J. W. Porter, Charlottesville, Va.
S. Valentine, Hagerstown, Md.

☞ Dr. J. P. H. Brown, Augusta, Ga., writes thus concerning our "Bee-Keepers's Convention Hand-Book:" I have examined it, and find it most superbly gotten up. You have embodied in it all the gist of the Parliamentary Manuals of Jefferson, Cushing and Mell. Aside from the information it contains, no bee-keeper can afford to do without it for a memorandum book."

☞ The second annual meeting of the Seneca County Bee-Keepers' Association will be held in the Engine House at Ovid, N. Y., on Feb. 11, 1885, at 9 a. m. All interested are cordially invited to attend, and make the meeting as profitable as possible. All implements of the apiary sent to the Secretary will be exhibited at the meeting, and will be disposed of or returned as the owner directs.

IRA WILSON, Sec.

☞ The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend. E. J. HADLEY, *Sec.*

☞ The Northeastern Michigan Bee-Keepers' Association will hold its third annual convention on Feb. 4, 1885, in the Opera House, at Vassar, Mich. No local society has better meetings than the N. E. Michigan. Reduced Hotel rates may be secured. President Taylor has visited New Orleans, and will probably be able to give an interesting account of the apiarian department of the Exposition. Those going on the cars will please write for railroad certificates and secure reduced rates.

W. Z. HUTCHINSON, Sec.
Rogersville, Mich.

☞ Every subscriber is kindly invited to obtain a *new* subscriber to send with his renewal. Please notice the premiums offered for clubs, on another page.

Special Notices.

The Bee Journal for 1885.

To increase the number of readers of the BEE JOURNAL, we believe, will aid progressive bee-culture and help to elevate the pursuit. We, therefore, offer the following

CASH PREMIUMS FOR CLUBS.

$10.00 for the largest club received at this office before Feb. 1, 1885 (either of the Weekly, Monthly, or both); one Weekly counts same as 4 Monthlies.

$5.00 for the second largest; $4.00 for the third; $3.00 for the fourth; $2.00 for the fifth; and $1.00 for the sixth largest club.

Subscriptions for two or more years for one person, will count the same as each year for a different person.

Apiary Register—New Edition.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it. The prices will hereafter be as follows:

For 50 colonies (120 pages).....$1 00
" 100 colonies (220 pages)..... 1 25
" 200 colonies (420 pages)..... 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones.

☞ We want one number each of the JOURNAL of Aug. 1866, Feb. 1867. Any one having them to spare will please send us a Postal card. We will take the first that offer them, and pay 25 cents each for the 2 numbers.

☞ For two subscribers for the Weekly BEE JOURNAL (or 8 for the Monthly) for one year, we will present a Pocket Dictionary, and send it by mail postpaid.

☞ We will send sample copies free to all who wish them, or desire to get up Clubs. Now is the time to work for the Cash premiums we offer. A large club for the Monthly can be gotten up in almost every locality.

☞ For $2.75 we will supply the Weekly BEE JOURNAL one year, and Dzierzon's Rational Bee-Keeping, in paper covers; or the Monthly BEE JOURNAL and the book for $1.25. Or, bound in cloth, with Weekly, $3.00; with the Monthly, $1.50.

☞ Our rates for two or more copies of the book, "Bees and Honey," may be found on the Book List on the second page of this paper. Also wholesale rates on all books where they are purchased "to sell again."

☞ To Canadian subscribers let us say that we have made arrangements so that we can supply the *Farmer's Advocate* of London, Ont., and the Monthly BEE JOURNAL for one year at $1.25 for the two.

Advertisements.

CLUBBING LIST.

We will supply the **American Bee Journal** one year, and any of the following Books, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

	Price of both.	*Club*
The Weekly Bee Journal,.....	$2 00..	
and Cook's Manual, latest edition	3 25..	3 00
Bees and Honey (T.G.Newman)cloth	3 00..	2 75
Bees and Honey (paper covers).....	2 75..	2 50
Binder for Weekly Bee Journal.....	2 75..	2 50
Apiary Register for 100 colonies	3 25..	3 00
Dzierzon's New Bee Book (cloth)....	4 00..	3 00
Dzierzon's New Book (paper covers)	3 50..	2 75
Quinby's New Bee-Keeping.	3 50..	3 25
Langstroth's Standard Work.....	4 00..	3 75
Root's A B C of Bee Culture (cloth)	3 25..	3 10
Alley's Queen Rearing.....	3 00..	2 75
The Weekly Bee Journal one year and Gleanings in Bee-Culture(A.I.Root)	3 00..	2 75
Bee-Keepers' Magazine (A.J.King).	3 00..	2 75
Bee-Keepers' Guide (A.G.Hill).....	2 50..	2 35
Kansas Bee-Keeper.....	3 00..	2 75
The Apiculturist, (Silas M. Locke) ..	3 00..	2 90
The **6** above-named papers.....	6 50..	6 00

THOMAS G. NEWMAN,
925 West Madison Street., **Chicago, Ill.**

Create a Local Honey Market.

Now is the time to create Honey Markets in every village, town and city. Wide-awake honey producers should get the Leaflets "Why eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully all over the territory they can supply with honey, and the result will be a *demand* that will readily take all of their crops at remunerative prices. The prices for "Honey as Food and Medicine" are as follows:

Single copy **5** cts.; per doz., **40** cts.; per hundred, **$2.50. 500** will be sent postpaid for **$10.00**; or **1000** for **$15.00.** On orders of **100** or more, we will print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

☞ To give away a copy of "Honey as Food and Medicine" *to every one who buys a package of honey*, will sell almost any quantity of it.

☞ The long winter evenings will be well occupied by reading bee literature. When renewing your subscription, it will be well to get some good bee-books. See our list of books on the second page and select what you need.

Premium for Club of 10 Subscribers.

The book for every farmer is the one entitled "Affleck's Farmer's and Planter's Record and Account Book," in which there is the most systematic, complete and convenient arrangement of headings for every Farm Account and memoranda of all important events which may occur in connection with his business. Every progressive farmer certainly desires to make a success of his occupation, and should adopt every possible means of bringing about that result. He, then, should have a correct knowledge of his entire business, which he can have only by keeping a correct account of every crop produced on his farm, the cost of production of all his live stock and an itemized account of all his expenses. Then at the close of the year, when he takes off his balance sheet, which is admirably arranged in the book above referred to, he will be able to see at a glance whether his farm does or does not pay.

This valuable book contains 166 pages, is nicely printed on writing paper, ruled and bound, and the price is $3.00. It can be sent by mail for 24 cents extra.

We can supply these books at the publisher's price, or will make a **present** of one copy for every club of TEN subscribers to the Weekly BEE JOURNAL for one year, with $20. Four subscribers to the Monthly will count the same as one for the Weekly.

Now is the time to get up Clubs. Who will work for a copy of this valuable book.